Report To The Consumer On Water Quality

Jan. 1, 2007 – Dec. 31, 2007

Consumer Confidence Report 2007

Water Production Source	Water Production (MG) 2007	Water Production (MG) 2006	% Of Last Year
Lake Mary Surface Water	96 Million Gallons	506 Million Gallons	**Down** 81 %
Lake Mary Wellfield	836 Million Gallons	840 Million Gallons	**Down** 0.5 %
Woody Mountain Wellfield	1306 Million Gallons	832 Million Gallons	**Up** 56.9 %
Inner Basin North RFP	122 Million Gallons	190 Million Gallons	**Down** 35.8 %
Local Wells	476 Million Gallons	432 Million Gallons	**Up** 10.2 %
TOTAL PRODUCTION	**2836 MG**	**2800 MG**	**Up** 2.6 %
POPULATION BASE	**65,194**	**PER CAPITA (Gallons Per Day)**	**119.42 GPD**

Water Production

During 2007 low reservoir levels (Upper Lake Mary) required increased ground water pumping from the Woody Mountain and Local Wellfields. The mission of the Utilities Department is to professionally and cost effectively provide water and wastewater services that meet the present and future environmental, health, and safety needs of the community and our co-workers.

We are committed to a goal of 100% customer satisfaction. This will be achieved by a dedication to exceed customer expectations by continuously improving our operations. We value our co-workers and strive to maintain high motivation by providing an environment that encourages improvement and teamwork.

Water Quality is always of paramount importance and I am pleased to present you the 2007 City of Flagstaff Report to the Consumer on Water Quality.

This annual report outlines where your drinking water comes from, how it is treated, and the results of tests performed on the quality of Flagstaff's drinking water.

Additionally, as mandated by the U.S. Environmental Protection Agency, this report informs you of contaminant levels in your drinking water, as well as violations incurred last year, among other important health information.

Thank you.
Randy Pellatz
Director, Utilities Department

Is My Water Safe?

During 2007, 1354 water samples were taken and analyzed to ensure compliance with all the standards required by the Safe Drinking Water Act. Last year, as in years past, your tap water met all U.S. Environmental Protection Agency (EPA) and state drinking water health standards. Local Water vigilantly safeguards its water supplies and once again we are proud to report that our system has not violated a maximum contaminant level or any other water quality standard.

Do I Need to Take Special Precautions?

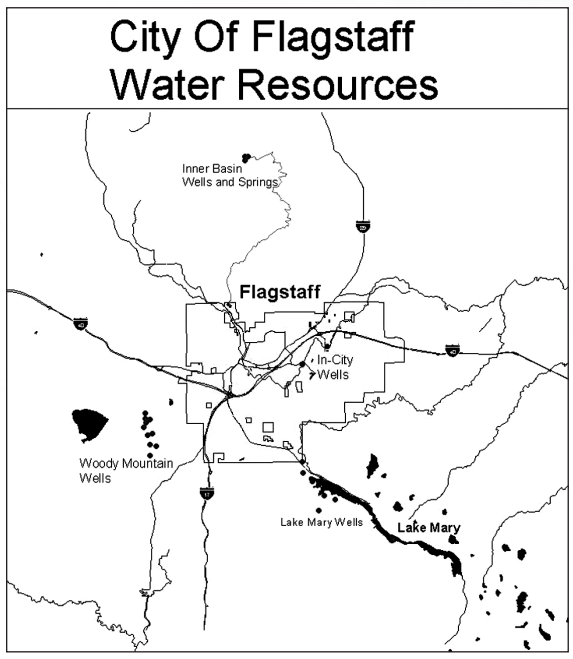
Some people may be more vulnerable to illness than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the **Safe Water Drinking Hotline (800-426-4791).**

Where Does My Water Come From?

In 2007 the Utilities Department distributed approximately 2873 million gallons of water an average 0f 7.87 million gallons per day.. Total water production was up 2.6 % over last year.

The City of Flagstaff is supplied by surface water from Upper Lake Mary and the Inner



Basin of the San Francisco Peaks. We also pump groundwater from the Woody Mountain Wellfield, Lake Mary Wellfield, and other Local Wells, which tap the Coconino and Supai Aquifers. These sources blend in the water distribution system and the amount of water coming from each source varies throughout the year.

Source Water Assesment and Its Availability

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Based on a mandate set forth in the 1996 amendments to the Safe Drinking Water Act, ADEQ evaluated each water source used by public water systems in Arizona. These evaluations assessed the hydrogeology of drinking water sources to determine the quality of groundwater being drawn into wells, evaluated the watersheds supplying surface water, and surveyed land use activities occurring near drinking water sources. This information is now used to determine the degree to which a public drinking water source is protected from, or at risk of, contamination. It is also used to assist local communities in implementing source water protection measures.

Adjacent land uses within a specified proximity to a drinking water source, or the designated source water assessment area, can now be evaluated by ADEQ to determine if they are in fact posing a contamination risk. ADEQ has compliance information (occurrence data) on all public water systems in Arizona as well as many of the land uses found within drinking water source water assessment areas.

Because of this customized approach in studying each individual system, the source water assessment reports allow for better protection of drinking water and allow ADEQ to tailor monitoring requirements specific to each system where appropriate. For example, if a water system has no history of contamination by a particular chemical, as well as no potential for future contamination (based on land use practices and the risk they might pose to water sources), then monitoring relief or reduced monitoring for that chemical may be granted for that system. Another water system with a history of problems or the potential for contamination with the same chemical would still be required to monitor for that substance.

ADEQ is confident that these assessments and the related source water protection activities are instrumental in preserving drinking water safety.

Arizona's Source Water Assessment Plan
http://www.azdeq.gov/environ/water/dw/download/swapplan.pdf

To review Source Water Assessment Reports for public water systems visit
http://www.azdeq.gov/environ/water/dw/swap.html

Why Are There Contaminants In My Drinking Water?

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline **(800-426-4791).**

Contaminants That May Be Present In Source Water

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Microbial Contaminants: Viruses, bacteria, and protozoan, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife. Microbial contaminants can cause short-term effects such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with compromised immune systems.

Inorganic Contaminants: Salts and metals, which can be naturally occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming. Certain inorganic contaminants consumed at levels in excess of the maximum contaminate level (MCL) may result in skin damage, circulatory problems, liver problems, kidney damage, and increased risk of cancer

Pesticides and Herbicides: Which may come from a variety of sources such as agriculture, storm-water runoff, and residential uses. Pesticides and herbicides consumed at levels greater than the required MCL may result in increased risk of blood problems, reproductive difficulties, kidney and liver damage, and increased risk of cancer.

Synthetic and Volatile Organic Chemical Contaminants: Which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm-water runoff and septic systems.

Radioactive Contaminants: Which can be naturally occurring or be the result of oil and gas production and mining activities. Radioactive contaminants may result in an increased risk of getting cancer.

Drinking Water Regulations

Total Coliform Rule (TCR): Establishes a maximum contaminant level (MCL) based on the presence or absense of total coliform bacteria. The TCR requires use of a sample siting plan and a sanitary survey. Implementation of the TRC has the public health benefit of reduction in risk of illness from disease causing microbiological contaminants.

Haloacetic Acids: Haloacetic acids (HAA5) are disinfection by-products that are formed when chlorine is used as the disinfectant. These compounds can increase the risk of cancer, and became regulated as of January 1, 2002 with a MCL of 60 ppb.

Total Trihalomethanes: Total Trihalomethanes (TTHMs) are disinfection by-products that are formed when chlorine is used as the disinfectant. These compounds can increase the risk of cancer, and became regulated as of January 1, 2002 with a MCL of 80 ppb.

Maximum Residual Disinfection Level (MRDL): Regulations for Maximum Residual Disinfection Level set a maximum limit for the running annual average MRDL at 4.0 ppm for chlorine.

TOC Removal Requirements: Control of disinfection by-product precursors has brought new regulations governing TOC removal requirements. TOC removal is accomplished through enhanced coagulation or enhanced softening. Regulations require a 50% TOC removal when the raw water TOC concentration is >8mg/L and alkalinity is <60mg/L. Violations occur when the ratio of the amount of actual TOC removal divided by the required amount of TOC removal is <1.

Long Term 2 Enhanced Surface Water Treatment Rule: Implemented in 2006 is designed to reduce the disease incidence associated with Cryptosporidium and other pathogenic organisms by building on existing rules.

Additional Information For Arsenic

While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Monitoring and Reporting of Compliance Data Violations

ADEQ and the Flagstaff Municipal Water System work together to ensure that your drinking water meet all the monitoring requirements mandated by the 1996 Safe Drinking Water Act. In 2007 the City was listed as being non-compliant due to incomplete monitoring for August Total Coliform testing and Nitrates. The City is in the process of having the non-compliance status changed to a compliance status by resubmitting the original monitoring data that was taken as required by the SDWA to ADEQ. Upon receipt of all necessary data ADEQ will modify their database to show the City in compliance.

How Can I Get Involved?

It is the obligation of the Utilities Department to provide a safe and adequate supply of drinking water. To help please our customers and meet our obligation, the Utilities Department strongly encourages public input and community participation on decisions affecting your water resources.

Regular Flagstaff Water Commission meetings are held the third Thursday of each month. Meeting locations are posted on the official City bulletin board at City Hall. Meetings begin at 4:00 PM and you are always welcome.

Copies of this report are available at the Utilities Administration Office, City Hall
211 West Aspen Avenue
Flagstaff, AZ 86001 or on our web site at:
www.flagstaff.az.gov

This report provides you with valuable information about your drinking water that is easy to understand.

We hope the results found in this report confirm that you can count on the City of Flagstaff for quality at the tap.

2007 CCR DATA

CONTAMINANT	HIGH	LOW	AVERAGE
Chlorine ppm	1.5	0.07	0.71
HAA5 ppb	21	1.1	4.1
TTHMs ppb	36	0.5	7.5
Arsenic ppb	8	1	3
Barium ppm	0.92	0.19	0.31
Chromium ppb	21	1	4
Fluoride ppm	0.21	0.07	0.12
Nitrate ppm	1.5	0.1	0.54

City of Flagstaff 2007 Water Quality Table

What Does The Water Quality Table Mean?

The Water Quality Table lists contaminants that were detected in the calendar year of this report. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk.

Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently.

Thank you for reading this important information on your water's quality. We'll be happy to answer your questions about the City of Flagstaff's Water Supply

Water Quality Information

Jack Rathjen, Water Production Manager
Lake Mary Water Treatment Plant at
928-774-0262

Consumer Confidence Report Information

John Davison, Program Assistant
Utilities Administration at
(928) 779 - 7685 x4838

Find Information About Your Water System On The City Of Flagstaff Website: www.flagstaff.az.gov

Water quality data for community water systems throughout the United States is also available at: Environmental Protection Agency - Local Drinking Water Information
http://www.epa.gov/safewater/dwinfo/index.html

Water Quality Data Table

The table below lists contaminants that were detected during the calendar year of this report. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently.

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Your Water	Range Low	Range High	Sample Date	Violation	Typical Source
Disinfectants & Disinfection By-Products								
(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.)								
Chlorine (as Cl2) (ppm)	4	4	1.5	0.07	1.5	2007	No	Water additive used to control microbes
Haloacetic Acids (HAA5) (ppb)	NA	60	21	1.1	21	2007	No	By-product of drinking water chlorination
Total Organic Carbon	NA	TT	NA	NA		2007	No	Naturally present in the environment
TTHMs [Total Trihalomethanes] (ppb)	NA	80	36	0.5	36	2007	No	By-product of drinking water disinfection
Inorganic Contaminants								
Arsenic (ppb)	0	10	8	1	8	2007	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2	2	0.92	0.19	0.92	2007	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chromium (ppb)	100	100	21	1	21	2007	No	Discharge from steel and pulp mills; Erosion of natural deposits
Fluoride (ppm)	4	4	0.21	0.07	0.21	2007	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate [measured as Nitrogen] (ppm)	10	10	1.5	0.1	1.5	2007	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Microbiological Contaminants								
Fecal coliform/E. coli (positive samples)	0	0	0	NA		2007	No	Human and animal fecal waste
A violation occurs when a routine sample and a repeat sample, in any given month, are total coliform positive, and one is also fecal coliform or E. coli positive.								
Total Coliform (% positive samples/month)	0	5	1.4	NA		2007	No	Naturally present in the environment
Turbidity (NTU) 100% of the samples were below the TT value of 0.3. A value less than 95% constitutes a TT violation. The highest single measurement was 0.3. Any measurement in excess of 1 is a violation unless otherwise approved by the state.						2007	No	Soil runoff

Water Quality Data Table - Cont.

Radioactive Contaminants								
Alpha emitters (pCi/L)	0	15	2.1	2.1	2.1	2007	No	Erosion of natural deposits
Radium (combined 226/228) (pCi/L)	0	5	0.3	0.3	0.3	2007	No	Erosion of natural deposits
Uranium (ug/L)	0	30	1.5	1.5	1.5	2007	No	Erosion of natural deposits

Contaminants	MCLG	AL	Your Water	Sample Date	# Samples Exceeding AL	Exceeds AL	Typical Source
Inorganic Contaminants							
Copper - action level at consumer taps (ppm)	1.3	1.3	0.16	2007	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead - action level at consumer taps (ppb)	0	15	2	2007	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

Undetected Contaminants

The following contaminants were monitored for, but not detected, in your water.

Contaminants	MCLG or MRDLG	MCL or MRDL	Your Water	Violation	Typical Source
Inorganic Contaminants					
Mercury [Inorganic] (ppb)	2	2	ND	No	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from cropland

Unit Descriptions	
Term	**Definition**
ug/L	ug/L : Number of micrograms of substance in one liter of water
ppm	ppm: parts per million, or milligrams per liter (mg/L)
ppb	ppb: parts per billion, or micrograms per liter (µg/L)
pCi/L	pCi/L: picocuries per liter (a measure of radioactivity)
NTU	NTU: Nephelometric Turbidity Units. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.
positive samples	positive samples/yr: The number of positive samples taken that year
% positive samples/month	% positive samples/month: Percent of samples taken monthly that were positive
NA	NA: not applicable
ND	ND: Not detected
NR	NR: Monitoring not required, but recommended.

Important Drinking Water Definitions	
Term	**Definition**
MCLG	MCLG: Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
MCL	MCL: Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
TT	TT: Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	AL: Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Variances and Exemptions	Variances and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	MRDLG: Maximum residual disinfection level goal. The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
MRDL	MRDL: Maximum residual disinfectant level. The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
MNR	MNR: Monitored Not Regulated
MPL	MPL: State Assigned Maximum Permissible Level

Can You Conserve 30% of Your Total Water Usage?

Everyone can personally make an impact. Flagstaff water customers use around 30% more water during the months of April to October, the outdoor water use months.

How much water does the landscape need? Deep and infrequent watering is a good rule to follow. If you have a large grass area, it is going to demand more water than a carefully planned low water use landscape. A 1,000 square feet of grass lawn (25' x 40') can consume over 30,000 gallons per year. That is a lot of drinking water! Consider removing this turf and replacing it with low or no water options. Call the Water Conservation office to begin the Turf Rebate process before beginning your project.

Strategy I conditions are in effect year round:

Odd/Even irrigation. Odd-numbered addresses may irrigate Tuesday, Thursday, and Saturday. Even-numbered addresses may irrigate Wednesday, Friday, and Sunday. There is no irrigation allowed on Monday. Irrigation is not allowed between the hours of 9 AM and 5 PM.

Incidental hand watering is allowed daily except between the hours of 9 AM and 5 PM. Hand watering requires that the water conveyance (hose, bucket, etc.) be in hand for the duration of a watering session. Hoses running freely, or sprinklers attached to hoses are not considered hand watering.

Landscape Establishment Permits are available at the Utilities Department in City Hall. Permits authorize daily irrigation for a maximum of 30 days to establish new landscapes. There is a $10 fee and permits should be obtained prior to new landscape installation. Irrigation hours still apply.

Commercial Provisions are available for businesses that require daily outdoor water use for the business to succeed, such as landscape nurseries. Requests for a Commercial Provision must be made in writing to the Utilities Director. Commercial provisions will not be approved for aesthetic landscaping.

Vehicle washing with a positive cut-off nozzle and bucket is allowed under Strategy I.

Non-compliance with Strategy I could result in a $25.00 fee assessed to your water bill. The fee will double with each repeat violation.

For more information:
WATER CONSERVATION HOTLINE
213-4822 or **Ellen Ryan** at **213-4827**

Frances Short Pond Enhancements

Construction of a new trail at the Pond's edge will occur this summer thanks to grant funding from AZ Game & Fish, Heritage Funds. Additional features: benches for wildlife viewing, two interpretative signs, a solar aerator and additional trash receptacles. The project should be complete by the fall and will add to the enjoyment of the Pond.

Milligan House Xeriscape Demonstration Garden

Ever wonder how a landscape with no grass might look at your house? Visit the Milligan House at the southeast corner of Aspen and Sitgreaves, enter through the arch, and learn how to transform your lawn using low water use or native plants. Workshops are being planned for the spring and summer and information will be available on site.

Xeriscape Contest

Do you plan to change your landscape at your home or business this season to be more water efficient? Do you plan to follow the Seven Principles of Xeriscape? Will you choose plants from the Flagstaff Fabulous Plants guide? If you are answering "yes", consider entering the second annual Flagstaff Xeriscape Contest! Judging will occur this summer with an entry deadline in July. The entry brochure can be obtained by contacting the Water Conservation office at **213-4827** or by viewing the website.

Milligan House Xeriscape Demonstration Garden